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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,022	01/07/2002	Asok K. Pcrumainar	P7213	2620

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EXAMINER
GISHNOCK, NIKOLAI A

ART UNIT	PAPER NUMBER
3714	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/041,022	PERUMAINAR, ASOK K.
	Examiner	Art Unit	
	Nikolai A. Gishnock	3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>02 August 2007</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1,4,5,8-11,13,16,17,19 and 20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1,4,5,8-11,13,16,17,19 and 20* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>07 January 2002</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

In response to the Applicant's amendments, filed 8/2/2007, claims 2, 3, 6, 7, 12, 14, 15, & 18

are cancelled. Claims 1, 4, 5, 8-11, 13, 16, 17, 19, & 20 are pending.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
> use or on sale in this country, more than one year prior to the date of application for patent in the United
> States.

2.   Claims 1, 4, 5, 8-11, 13, 16, 17, 19, & 20 are rejected under 35 U.S.C. 102(b) as being

anticipated by Hennefeld, Julien O. *Using Turbo Pascal 4.0-6.0 – 2nd ed.* Boston, MA, PWS-

Kent Publishing Co., 1992, 1989. p. 31-32, 42-43, 89-91, 455-460. ISBN 0-534-92710-6,

hereinafter known as Hennefeld. Hennefeld discloses a method in a computer system for

teaching a programming language, comprising: first computer code providing an interpreter

interface including a code entry portion adapted for receiving an input from a user (typing in a

program, p. 31); receiving a single code entry comprising a programming statement in the

programming language from the user via the code entry portion (built-in debugger runs program

one statement at a time, p. 91 & 456); second computer code configured for processing the

code entry (program is compiled, p. 31) where processing includes comparing the code entry to

a set of syntax and language rules for the programming language to identify errors (syntax

rules, p. 31-32) *by comparing syntax of the code entry to a set of syntax rules for the*

programming language to identify a syntax error (syntax errors, violations of the grammatical rules are detected, p. 31-32 & 42-43), *comparing the code entry to a set of language rules to identify a language rule violation by the code entry* (run-time or execution errors are caught during the running of the program, page 43; an example of a language rule is understood to include the *divide-by-zero* rule) and executing the code entry when no errors are identified (CTRL/F9 will attempt compilation, and if successful, also run the program, p. 32) *and when the comparing identifies the syntax error or the language rule violation, retrieving an error code based on the syntax error* (syntax error displayed as "Error 3: Unknown Identifier", p. 32) *or the language rule violation* (execution would be terminated with a *division by zero* error message, p. 43) [Claim 1]; and third computer code for displaying a visual cue to the user in response to the processing (output on screen, p. 89; also debugger used to figure out why a program produces incorrect output, p. 89-91) *wherein the visual cue includes the error code when comparing identifies the syntax error or language rule violation and a semantic view of effects including created variables of executing the code entry when no syntax errors are identified* (if compilation is successful, program is run, p. 32; also, watch window to watch the values of certain variables, p. 455-458; it is understood that a syntax error or language rule violation causes execution of the program to stop, therefore, the watch window is not updated unless no errors are identified) [Claims 1 & 11]. Hennefeld discloses fourth computer code for comparing, including identifying the syntax error, including retrieving an error code based on the syntax error *or language rule violation* and the visual cue includes the error code (syntax error displayed as "Error 3: Unknown Identifier", p. 32; execution would be terminated with a *division by zero* error message, p. 43), fifth computer code devices for causing a computer to execute the programming statement when the second computer code devices identifies the absence of the syntax error and absence of the language rule violation (if compilation is successful, program is

run, p. 32; it is understood that a syntax error or language rule violation causes execution of the program to stop); and sixth computer code devices for displaying to the user a semantic view of effects of executing by the fifth computer code devices including created variable values (watch window to watch the values of certain variables, p. 455-458; including tracing values of global and local variables, and data structures such as arrays and records, p. 456) [Claim 11]. Hennefeld discloses where the visual cue further includes the received code entry (syntax error displayed as "Error 3: Unknown Identifier", p. 32; with the cursor blinking at the "i" of "interger" (sic), p. 32) [Claim 4]. Hennefeld discloses where the interpreter interface includes a code entry history portion for displaying the error code, the received code entry, and the previously received and processed code entries (test of program "drill" typed in {edit mode}, p. 31-32; pressing F6 toggles back to the edit mode, p. 455) [Claims 5 & 13]. Hennefeld discloses where the semantic view includes displaying a type, name, and value of a variable declared and assigned in the code entry (Built-In debugger allows you to set up a watch window to watch the values of certain variables change as you execute the program one line at a time, p. 455; Data Structures as Watch Variables; a watch variable can be any type of variable; the display of the variable will vary according to the variable's data structure, p. 456) [Claim 8]. Hennefeld discloses where the displaying objects and arrays created by or manipulated by execution of the code entry (contents of arrays and records are displayed; type is indicated by the parenthesis and commas, p. 456) [Claims 9 & 10]. Hennefeld discloses a computer system for teaching programming language concepts, comprising: means for receiving a code entry comprising a programming statement in a programming language from a user (typing in a program, p. 31; built-in debugger runs program one statement at a time, p. 91 & 456); a syntax validator processing the received code entry based on syntax rules for the programming language to determine syntax validity or a syntax error (compiler checks for syntax errors, violations of the

grammatical rules are detected, p. 31-32 & 42-43); a language rule validator processing the

received code entry based on language rules for the programming language to determine

presence or absence of a language rule violation (run-time or execution errors are caught {by

the debugger} during the running of the program, page 43; an example of a language rule is

understood to include the *divide-by-zero* rule); and a semantic view engine displaying a

semantic view to the user based on the determined syntax validity or the syntax error and based

on the determined presence or absence of the language rule violation, wherein the semantic

view includes effects of execution of the code entry including created variable values and arrays

(Built-In debugger allows you to set up a watch window to watch the values of certain variables

change as you execute the program one line at a time, p. 455; Data Structures as Watch

Variables; a watch variable can be any type of variable; the display of the variable will vary

according to the variable's data structure, ; including tracing values of global and local variables,

and data structures such as arrays and records, p. 456) [Claim 16]. Hennefeld discloses

wherein the semantic view includes an error statement selected based on the syntax error

(syntax error displayed as "Error 3: Unknown Identifier", p. 32; if compilation is successful,

program is run, p. 32; also, watch window to watch the values of certain variables, p. 455-458; it

is understood that a syntax error or language rule violation causes execution of the program to

stop, therefore, the watch window is not updated unless no errors are identified) [Claim 17].

Hennefeld discloses an execution engine (the computer) operating to execute the code entry

when the syntax is determined valid (if compilation is successful, program is run, p. 32), wherein

the code entry is executed based on a previously entered code entry (If you try to compile a

program that contains one or more syntax errors, the compilation will terminate with an error

message giving the compiler's 'best guess' as to the nature and location, p. 31; see also

description of breakpoints, p. 457-458, execution will proceed until a breakpoint line is reached,

then Turbo {debugger} will suspend execution and place you back in the edit window) [Claim

19]. Hennefeld discloses wherein the receiving means includes an interface for displaying an

interpreter interface with a code entry window (edit window, p. 457) for accepting the code entry

by the user (typing in a program, p. 31), and for displaying a code entry history having

previously-entered code entries (the Example on p. 31 clearly shows the code lines as they are

typed in) and error statements corresponding to the previously-entered code entries

(compilation will terminate with the error message, "Error 3: Unknown identifier") [Claim 20].

Response to Arguments

3.   Applicant's arguments filed 8/2/2007, in regard to Hennefeld, see page 7-8, have been

fully considered but they are not persuasive. The Applicant states that Hennefeld halts

compilation of the entire program when an error is detected and then displays an error code for

that first detected error. The Examiner presumes this means that Applicant submits that

Hennefeld fails to disclose "receiving a single code entry comprising a programming statement",

and "processing the code entry" as recited in claims 1 and 16. However, Hennefeld does

disclose a "classic" debugger that allows you to step through the running of a program one

statement at a time (p. 91). Further, a program used by the debugger of Hennefeld may only

have one line, in which case only a single code entry would be processed. Applicant also states

that Hennefeld fails to teach the comparison of a single line of code to language rules to

determine whether a language rule violation has occurred. However, Hennefeld discloses where

the debugger catchees "run-time" or "execution errors" (p. 43), even if the program is compiled,

such errors violate the no "division by zero" language rule, causing a visual cue error message.

Thus the Applicant's arguments are no persuasive.

4.   Applicant's arguments filed 8/2/2007 with respect to the Inman and Wygodny references,
see p. 9-10, have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to applicant's
disclosure. Joshi (US 2003/0090473 A1) discloses a touch-pad programmer's interface having
windows to display code, comments, flowcharts, pseudo-code, and input options. Scandura (US
6,275,976 B1) discloses a method for automatically building software code based on a user's
input specifications. Rosenburg (*How Debuggers Work: Algorithms, Data Structures, and
Architecture*, John Wiley & Sons, Inc. New York, 1996. ISBN 0-471-14966-7) discloses how
debuggers are used to teach programming, and how debuggers check both syntax and
language rules in a Java interpreter one line at a time.

Any inquiry concerning this communication or earlier communications from the examiner
should be directed to Nikolai A. Gishnock whose telephone number is 571-272-1420. The
examiner can normally be reached on M-F 8:30a-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Xuan M. Thai can be reached on 571-272-7147. The fax phone number for the
organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

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PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you

would like assistance from a USPTO Customer Service Representative or access to the

automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NAG

NAG
10/9/2007

Ronald Laneau
Primary Examiner
Art Unit 3714

10/10/07